

Lakes of the United States. An unusual number of barometric depressions moved southeastward from the British Northwest Territory over the Missouri Valley and the Lake region, and passed thence eastward attended by local rains and thunderstorms. Persistent and heavy rains in the Middle-Eastern and Southeastern States, and dry warm weather in New England and parts of New York were notable features of the month. From the 26th to 28th a frost-bearing cool wave, for which warnings were issued, overspread the Northwestern States and the extreme upper Mississippi Valley.

## BOSTON FORECAST DISTRICT.

The month was exceptionally warm and dry. On the 6th severe thunderstorms occurred in western Massachusetts and parts of New Hampshire, and on the 21st in western Massachusetts. No storm warnings were ordered and no high winds occurred on the coast.—*J. W. Smith, District Forecaster.*

## NEW ORLEANS FORECAST DISTRICT.

Precipitation was unevenly distributed, being excessive in some districts and deficient in others. Temperature changes were slight. Special warnings were not issued or required.—*I. M. Cline, District Forecaster.*

## LOUISVILLE FORECAST DISTRICT.

Sluggish barometric conditions prevailed. Showers were frequent and there were some heavy local rains. Though no very high temperatures occurred, humid and warm weather prevailed until the 27th, when cooler weather set in. No special warnings were issued and none were required.—*G. B. Wurtz, Local Forecaster.*

## CHICAGO FORECAST DISTRICT.

The month was generally uneventful. From the 26th to 28th frost warnings were issued for frosts that occurred at points in Nebraska and northern Iowa on the 27th and in the cranberry districts of Wisconsin on the 27th and 28th.—*H. C. Frankenfield, Professor and District Forecaster.*

## DENVER FORECAST DISTRICT.

The month was cooler than usual with the greatest deficiency of temperature in southern portions of New Mexico and Arizona. Less than the usual amount of rain fell in Colorado and adjacent parts of Wyoming and New Mexico, while in western Wyoming, Utah, Arizona, and southern New Mexico the rainfall was abnormally heavy and at a number of stations exceeded all previous records for August. No special warnings were issued or required.—*F. H. Brandenburg, District Forecaster.*

## SAN FRANCISCO FORECAST DISTRICT.

The month, as a whole, was a quiet one. There were thunderstorms with resulting washouts in the Salton and Colorado deserts during the first and second decades of the month. On the 11th showers were general in Nevada and the Sierra

Madre. On the 18th heavy rains occurred in the valley of the Colorado and numerous thunderstorms in Nevada. Showers were general in southern California and Nevada on the 20th and 21st.—*A. G. McAdie, Professor and District Forecaster.*

## PORTLAND, OREG., FORECAST DISTRICT.

The month was quiet and no special warnings were issued or required. The temperature averaged slightly above normal and precipitation was deficient, except in a few localities, where heavy local rains occurred. Owing to the dry weather there were numerous forest fires, which destroyed a large amount of property. The dry weather also resulted in unusually low stages in the rivers.—*E. A. Beals, District Forecaster.*

## RIVERS AND FLOODS.

With the exception of the rivers of North Carolina, South Carolina, and Texas, and the lower portion of the Arkansas River, there were no high stages during the month.

The Mississippi River was highest during the first of the month in the lower, and the last of the month in the upper portion.

The Ohio and Missouri rivers were highest during the middle of the month, due to the general rains of that period. The rivers of the Carolinas were also affected by these rains, which caused high water, and the additional precipitation during the last of the month over the watersheds of these rivers caused flood stages on the Roanoke, Cape Fear, Pedee, Catawba, Wateree, Broad, and Saluda rivers, especially in the lower portions. The warnings were issued for the high water well in advance, and were, in nearly all instances, fully verified.

Unusually heavy local rains over the headwaters of the Colorado and Trinity rivers of Texas caused rapid rises of those streams. The Trinity reached flood stages on its upper portion only, while the Colorado overflowed over its entire length. Warnings were issued on August 7, for the floods of the 12th to the 15th in the lower Colorado River.

On August 9 and 10, warnings were issued for high water in the Arkansas, although flood stages were not expected. These warnings were fully justified.

The Columbia and its tributaries fell slowly throughout the month.

The highest and lowest water, mean stage, and monthly range at 268 river stations are given in Table VI. Hydrographs for typical points on seven principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

## THE WEATHER OF THE MONTH.

By Mr. P. C. DAY, Assistant Chief, Division of Meteorological Records.

## PRESSURE.

The distribution of mean atmospheric pressure is graphically shown on Chart VI, and the average values and departures from the normal are shown in Tables I and V.

No marked variations from the normal occurred in the distribution of the average pressure during the month.

The areas of low pressure originated mainly over the Canadian northwest, moved southeast over the Missouri Valley, recurved northeastward to the Lakes, and passed eastward north of the St. Lawrence Valley.

The areas of high pressure, as a rule, also passed eastward north of the boundary.

As a result of the unusual northern paths of the highs and lows, the greater part of the territory of the United States was not within the influence of any marked atmospheric dis-

turbance during the month. Stagnant atmospheric conditions prevailed and any marked variation from the normal of the several elements was due in the main to local conditions.

Pressure was slightly below normal in the Lake region, Ohio, upper Mississippi, and lower Missouri valleys, and generally west of the Rocky Mountains, except over northwest Washington. It was slightly above normal over the Atlantic and Gulf States, Texas, and the Plains region.

## TEMPERATURE.

Average temperatures above the normal prevailed over all districts of the United States and Canada, except over western Texas, the Rocky Mountain and eastern Plateau sections, southern California, and the coast of Washington.

Nearly continuous warm weather prevailed over the Lake region and eastward over New York and New England, where